C. Kautman

PAGE: 1

RAW SEQUENCE LISTING PATENT APPLICATION US/08/954,771

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This Raw Listing contains the General
Information Section and up to the first 5 pages

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1		SEQUENCE LISTING
2	(1)	eneral Information.
3 4	(1) G	eneral Information:
5 6 7	(i)	APPLICANT: Ingham, Phillip W. McMahon, Andrew P. Tabin, Clifford J.
8 9	(ii)	TITLE OF INVENTION: Vertebrate Embryonic Pattern-Inducing
10		Proteins and Uses Related Thereto
11	12221	ATTACHE OF CHOTHACHE AS
12 13	(111)	NUMBER OF SEQUENCES: 48
14	(iv)	CORRESPONDENCE ADDRESS:
15	(10)	(A) ADDRESSEE: FOLEY, HOAG & ELIOT LLP
16		(B) STREET: One Post Office Square
17		(C) CITY: Boston
18		(D) STATE: MA
19		(E) COUNTRY: USA
20		(F) ZIP: 02109-2170
21		
22	(v)	COMPUTER READABLE FORM:
23		(A) MEDIUM TYPE: Floppy disk
24		(B) COMPUTER: IBM PC compatible
25		(C) OPERATING SYSTEM: PC-DOS/MS-DOS
26		(D) SOFTWARE: PatentIn Release #1.0, Version #1.30
27	, ,,	
28	(V1)	CURRENT APPLICATION DATA:
29		(A) APPLICATION NUMBER: US 08/954,771
30		(B) FILING DATE: 20-OCT-1997
31 32	(*** 1)	PRIOR APPLICATION DATA:
32 33	(ATT)	(A) APPLICATION NUMBER: US 08/462,386
34		(B) FILING DATE: 05-JUN-1995
35		(b) Fiding Date: 03-00N-1993
36	(vii)	PRIOR APPLICATION DATA:
37	(+==)	(A) APPLICATION NUMBER: US 08/435,093
38		(B) FILING DATE: 04-MAY-1995
39		(-,
40	(vii)	PRIOR APPLICATION DATA:
41		(A) APPLICATION NUMBER: US 08/356,060
42		(B) FILING DATE: 14-DEC-1994
43		
44	(vii)	PRIOR APPLICATION DATA:
45		(A) APPLICATION NUMBER: US 08/176,427
46		(B) FILING DATE: 30-DEC-1993

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74 75 76 77	Met	GTC	GAA	ATG	CTG Leu		TTG	ACA	AGA	ATT Ile	CTC				Phe		48
74 75 76 77 78		GTC	GAA	ATG	CTG	CTG	TTG	ACA	AGA	ATT	CTC						48
74 75 76 77 78 79	Met 1	GTC Val	GAA Glu	ATG Met	CTG Leu 5	CTG Leu	TTG Leu	ACA Thr	AGA Arg	ATT Ile 10	CTC Leu	Leu	Val	Gly	Phe 15	Ile	
74 75 76 77 78 79	Met 1 TGC	GTC Val	GAA Glu CTT	ATG Met	CTG Leu 5	CTG Leu TCC	TTG Leu TCT	ACA Thr	AGA Arg	ATT Ile 10	CTC Leu TGT	Leu GGA	Val CCA	Gly	Phe 15 AGG	Ile GGC	48
74 75 76 77 78 79 80	Met 1 TGC	GTC Val	GAA Glu CTT	ATG Met TTA Leu	CTG Leu 5	CTG Leu	TTG Leu TCT	ACA Thr	AGA Arg CTG Leu	ATT Ile 10	CTC Leu TGT	Leu GGA	Val CCA	Gly GGC Gly	Phe 15 AGG	Ile GGC	
74 75 76 77 78 79 80 81 82	Met 1 TGC	GTC Val	GAA Glu CTT	ATG Met	CTG Leu 5	CTG Leu TCC	TTG Leu TCT	ACA Thr	AGA Arg	ATT Ile 10	CTC Leu TGT	Leu GGA	Val CCA	Gly	Phe 15 AGG	Ile GGC	
74 75 76 77 78 79 80 81 82 83	Met 1 TGC Cys	GTC Val GCT Ala	GAA Glu CTT Leu	ATG Met TTA Leu 20	CTG Leu 5 GTC Val	CTG Leu TCC Ser	TTG Leu TCT Ser	ACA Thr GGG Gly	AGA Arg CTG Leu 25	ATT Ile 10 ACT Thr	CTC Leu TGT Cys	Leu GGA Gly	Val CCA Pro	GGC Gly 30	Phe 15 AGG Arg	Ile GGC Gly	96
74 75 76 77 78 79 80 81 82 83	Met 1 TGC Cys	GTC Val GCT Ala	GAA Glu CTT Leu	ATG Met TTA Leu 20	CTG Leu 5 GTC Val	CTG Leu TCC Ser	TTG Leu TCT Ser	ACA Thr GGG Gly	AGA Arg CTG Leu 25	ATT Ile 10 ACT Thr	CTC Leu TGT Cys	GGA Gly	Val CCA Pro	GGC Gly 30 GCC	Phe 15 AGG Arg	Ile GGC Gly AAG	
74 75 76 77 78 79 80 81 82 83 84 85	Met 1 TGC Cys	GTC Val GCT Ala	GAA Glu CTT Leu AAA Lys	ATG Met TTA Leu 20	CTG Leu 5 GTC Val	CTG Leu TCC Ser	TTG Leu TCT Ser	ACA Thr GGG Gly AAA Lys	AGA Arg CTG Leu 25	ATT Ile 10 ACT Thr	CTC Leu TGT Cys	GGA Gly	CCA Pro	GGC Gly 30 GCC	Phe 15 AGG Arg	Ile GGC Gly AAG	96
74 75 76 77 78 79 80 81 82 83 84 85 86	Met 1 TGC Cys	GTC Val GCT Ala	GAA Glu CTT Leu	ATG Met TTA Leu 20	CTG Leu 5 GTC Val	CTG Leu TCC Ser	TTG Leu TCT Ser	ACA Thr GGG Gly	AGA Arg CTG Leu 25	ATT Ile 10 ACT Thr	CTC Leu TGT Cys	GGA Gly	Val CCA Pro	GGC Gly 30 GCC	Phe 15 AGG Arg	Ile GGC Gly AAG	96
74 75 76 77 80 81 82 83 84 85 86 87	Met 1 TGC Cys ATT Ile	GTC Val GCT Ala GGA Gly	GAA Glu CTT Leu AAA Lys 35	ATG Met TTA Leu 20 AGG Arg	CTG Leu 5 GTC Val AGG Arg	CTG Leu TCC Ser CAC	TTG Leu TCT Ser CCC Pro	ACA Thr GGG Gly AAA Lys 40	AGA Arg CTG Leu 25 AAG Lys	ATT Ile 10 ACT Thr CTG Leu	CTC Leu TGT Cys ACC Thr	GGA Gly CCG Pro	CCA Pro TTA Leu 45	GGC Gly 30 GCC Ala	Phe 15 AGG Arg TAT Tyr	GGC Gly AAG Lys	96
74 75 77 77 80 81 82 83 84 85 87 88	Met 1 TGC Cys ATT Ile	GTC Val GCT Ala GGA Gly	GAA Glu CTT Leu AAA Lys 35	ATG Met TTA Leu 20 AGG Arg	CTG Leu 5 GTC Val AGG Arg	CTG Leu TCC Ser CAC His	TTG Leu TCT Ser CCC Pro	ACA Thr GGG Gly AAA Lys 40	AGA Arg CTG Leu 25 AAG Lys	ATT Ile 10 ACT Thr CTG Leu	CTC Leu TGT Cys ACC Thr	GGA Gly CCG Pro	CCA Pro TTA Leu 45	GGC Gly 30 GCC Ala	Phe 15 AGG Arg TAT Tyr	GGC Gly AAG Lys	96
74 75 77 77 80 81 82 83 84 85 88 88 88 88	Met 1 TGC Cys ATT Ile	GTC Val GCT Ala GGA Gly	GAA Glu CTT Leu AAA Lys 35	ATG Met TTA Leu 20 AGG Arg	CTG Leu 5 GTC Val AGG Arg	CTG Leu TCC Ser CAC	TTG Leu TCT Ser CCC Pro	ACA Thr GGG Gly AAA Lys 40	AGA Arg CTG Leu 25 AAG Lys	ATT Ile 10 ACT Thr CTG Leu	CTC Leu TGT Cys ACC Thr	GGA Gly CCG Pro	CCA Pro TTA Leu 45	GGC Gly 30 GCC Ala	Phe 15 AGG Arg TAT Tyr	GGC Gly AAG Lys	96
74 75 76 77 78 80 81 82 83 84 85 86 87 88 90	Met 1 TGC Cys ATT Ile	GTC Val GCT Ala GGA Gly	GAA Glu CTT Leu AAA Lys 35	ATG Met TTA Leu 20 AGG Arg	CTG Leu 5 GTC Val AGG Arg	CTG Leu TCC Ser CAC His	TTG Leu TCT Ser CCC Pro	ACA Thr GGG Gly AAA Lys 40	AGA Arg CTG Leu 25 AAG Lys	ATT Ile 10 ACT Thr CTG Leu	CTC Leu TGT Cys ACC Thr	GGA Gly CCG Pro	CCA Pro TTA Leu 45	GGC Gly 30 GCC Ala	Phe 15 AGG Arg TAT Tyr	GGC Gly AAG Lys	96
74 75 76 77 78 80 81 82 83 84 85 86 87 88 90 91	Met 1 TGC Cys ATT Ile CAG Gln	GTC Val GCT Ala GGA Gly TTT Phe 50	GAA Glu CTT Leu AAA Lys 35 ATT	ATG Met TTA Leu 20 AGG Arg CCC Pro	CTG Leu 5 GTC Val AGG Arg	CTG Leu TCC Ser CAC His	TTG Leu TCT Ser CCC Pro GCA Ala 55	ACA Thr GGG Gly AAA Lys 40 GAG Glu	AGA Arg CTG Leu 25 AAG Lys	ATT Ile 10 ACT Thr CTG Leu ACC Thr	CTC Leu TGT Cys ACC Thr	GGA Gly CCG Pro GGG Gly 60	CCA Pro TTA Leu 45 GCC Ala	GGC Gly 30 GCC Ala AGT Ser	Phe 15 AGG Arg TAT Tyr GGA Gly	GGC Gly AAG Lys AGA Arg	96 144 192
74 75 76 77 78 80 81 82 83 84 85 86 87 88 90 91 92	Met 1 TGC Cys ATT Ile CAG Gln TAT	GTC Val GCT Ala GGA Gly TTT Phe 50	GAA Glu CTT Leu AAA Lys 35 ATT Ile	ATG Met TTA Leu 20 AGG Arg CCC Pro	CTG Leu 5 GTC Val AGG Arg AAT ASN	CTG Leu TCC Ser CAC His	TTG Leu TCT Ser CCC Pro GCA Ala 55	ACA Thr GGG Gly AAA Lys 40 GAG Glu	AGA Arg CTG Leu 25 AAG Lys AAG Lys	ATT Ile 10 ACT Thr CTG Leu ACC Thr	CTC Leu TGT Cys ACC Thr CTA Leu	GGA Gly CCG Pro GGG Gly 60	CCA Pro TTA Leu 45 GCC Ala	GGC Gly 30 GCC Ala AGT Ser	Phe 15 AGG Arg TAT Tyr GGA Gly	GGC Gly AAG Lys AGA Arg	96
74 75 76 77 78 80 81 82 83 84 85 86 87 88 90 91 92 93	Met 1 TGC Cys ATT Ile CAG Gln TAT Tyr	GTC Val GCT Ala GGA Gly TTT Phe 50	GAA Glu CTT Leu AAA Lys 35 ATT Ile	ATG Met TTA Leu 20 AGG Arg CCC Pro	CTG Leu 5 GTC Val AGG Arg AAT ASN	CTG Leu TCC Ser CAC His GTG Val	TTG Leu TCT Ser CCC Pro GCA Ala 55	ACA Thr GGG Gly AAA Lys 40 GAG Glu	AGA Arg CTG Leu 25 AAG Lys AAG Lys	ATT Ile 10 ACT Thr CTG Leu ACC Thr	CTC Leu TGT Cys ACC Thr CTA Leu	GGA Gly CCG Pro GGG Gly 60	CCA Pro TTA Leu 45 GCC Ala	GGC Gly 30 GCC Ala AGT Ser	Phe 15 AGG Arg TAT Tyr GGA Gly	GGC Gly AAG Lys AGA Arg ACC Thr	96 144 192
74 75 76 77 80 81 83 84 85 88 89 91 92 93 94	Met 1 TGC Cys ATT Ile CAG Gln TAT	GTC Val GCT Ala GGA Gly TTT Phe 50	GAA Glu CTT Leu AAA Lys 35 ATT Ile	ATG Met TTA Leu 20 AGG Arg CCC Pro	CTG Leu 5 GTC Val AGG Arg AAT ASN	CTG Leu TCC Ser CAC His	TTG Leu TCT Ser CCC Pro GCA Ala 55	ACA Thr GGG Gly AAA Lys 40 GAG Glu	AGA Arg CTG Leu 25 AAG Lys AAG Lys	ATT Ile 10 ACT Thr CTG Leu ACC Thr	CTC Leu TGT Cys ACC Thr CTA Leu	GGA Gly CCG Pro GGG Gly 60	CCA Pro TTA Leu 45 GCC Ala	GGC Gly 30 GCC Ala AGT Ser	Phe 15 AGG Arg TAT Tyr GGA Gly	GGC Gly AAG Lys AGA Arg	96 144 192
74 75 77 77 77 80 81 82 83 84 85 86 87 88 99 99 99 99 99 99 99 99 99 99 99 99	Met 1 TGC Cys ATT Ile CAG Gln TAT Tyr 65	GTC Val GCT Ala GGA Gly TTT Phe 50 GAA Glu	GAA Glu CTT Leu AAA Lys 35 ATT Ile	ATG Met TTA Leu 20 AGG Arg CCC Pro	CTG Leu 5 GTC Val AGG Arg AAT ASN	CTG Leu TCC Ser CAC His GTG Val	TTG Leu TCT Ser CCC Pro GCA Ala 55 AGA Arg	ACA Thr GGG Gly AAA Lys 40 GAG Glu AAC Asn	AGA Arg CTG Leu 25 AAG Lys AAG Lys TCC Ser	ATT Ile 10 ACT Thr CTG Leu ACC Thr GAG Glu	CTC Leu TGT Cys ACC Thr CTA Leu AGA Arg 75	GGA Gly CCG Pro GGG Gly 60 TTT Phe	CCA Pro TTA Leu 45 GCC Ala	GGC Gly 30 GCC Ala AGT Ser GAA Glu	Phe 15 AGG Arg TAT Tyr GGA Gly CTA Leu	GGC Gly AAG Lys AGA Arg ACC Thr 80	96 144 192 240
74 75 77 77 78 81 82 83 84 85 86 87 88 99 99 99 99 99 99 99 99 99 99 99 99	Met 1 TGC Cys ATT Ile CAG Gln TAT Tyr 65 CCA	GTC Val GCT Ala GGA Gly TTT Phe 50 GAA Glu	GAA Glu CTT Leu AAA Lys 35 ATT Ile GGG Gly	ATG Met TTA Leu 20 AGG Arg CCC Pro AAG Lys	CTG Leu 5 GTC Val AGG Arg AAT Asn	CTG Leu TCC Ser CAC His GTG Val	TTG Leu TCT Ser CCC Pro GCA Ala 55 AGA Arg	ACA Thr GGG Gly AAA Lys 40 GAG Glu AAC Asn	AGA Arg CTG Leu 25 AAG Lys AAG Lys TCC Ser	ATT Ile 10 ACT Thr CTG Leu ACC Thr GAG Glu AAG	CTC Leu TGT Cys ACC Thr CTA Leu AGA Arg 75	GGA Gly 60 TTT Phe	CCA Pro TTA Leu 45 GCC Ala AAA Lys	GGC Gly 30 GCC Ala AGT Ser GAA Glu	Phe 15 AGG Arg TAT Tyr GGA Gly CTA Leu	GGC Gly AAG Lys AGA Arg ACC Thr 80 GGA	96 144 192
74 75 77 77 78 81 82 83 84 85 86 87 88 99 99 99 99 99 99 99 99 99 99 99 99	Met 1 TGC Cys ATT Ile CAG Gln TAT Tyr 65 CCA	GTC Val GCT Ala GGA Gly TTT Phe 50 GAA Glu	GAA Glu CTT Leu AAA Lys 35 ATT Ile GGG Gly	ATG Met TTA Leu 20 AGG Arg CCC Pro AAG Lys	CTG Leu 5 GTC Val AGG Arg AAT ASN	CTG Leu TCC Ser CAC His GTG Val	TTG Leu TCT Ser CCC Pro GCA Ala 55 AGA Arg	ACA Thr GGG Gly AAA Lys 40 GAG Glu AAC Asn	AGA Arg CTG Leu 25 AAG Lys AAG Lys TCC Ser	ATT Ile 10 ACT Thr CTG Leu ACC Thr GAG Glu AAG Lys	CTC Leu TGT Cys ACC Thr CTA Leu AGA Arg 75	GGA Gly 60 TTT Phe	CCA Pro TTA Leu 45 GCC Ala AAA Lys	GGC Gly 30 GCC Ala AGT Ser GAA Glu	Phe 15 AGG Arg TAT Tyr GGA Gly CTA Leu	GGC Gly AAG Lys AGA Arg ACC Thr 80 GGA	96 144 192 240
74 75 77 77 78 81 82 83 84 85 86 87 88 99 99 99 99 99 99 99 99 99 99 99 99	Met 1 TGC Cys ATT Ile CAG Gln TAT Tyr 65 CCA	GTC Val GCT Ala GGA Gly TTT Phe 50 GAA Glu	GAA Glu CTT Leu AAA Lys 35 ATT Ile GGG Gly	ATG Met TTA Leu 20 AGG Arg CCC Pro AAG Lys	CTG Leu 5 GTC Val AGG Arg AAT Asn	CTG Leu TCC Ser CAC His GTG Val	TTG Leu TCT Ser CCC Pro GCA Ala 55 AGA Arg	ACA Thr GGG Gly AAA Lys 40 GAG Glu AAC Asn	AGA Arg CTG Leu 25 AAG Lys AAG Lys TCC Ser	ATT Ile 10 ACT Thr CTG Leu ACC Thr GAG Glu AAG	CTC Leu TGT Cys ACC Thr CTA Leu AGA Arg 75	GGA Gly 60 TTT Phe	CCA Pro TTA Leu 45 GCC Ala AAA Lys	GGC Gly 30 GCC Ala AGT Ser GAA Glu	Phe 15 AGG Arg TAT Tyr GGA Gly CTA Leu	GGC Gly AAG Lys AGA Arg ACC Thr 80 GGA	96 144 192 240

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117						Arg											320
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119					100												
120	TAC	TAC	GAG	TCC	AAG	GCG	CAC	ATC	CAC	TGC	TCC	GTC	AAA	GCA	GAA	AAC	576
121						Ala											
122	- 2 -	- 2 -		180	_ 1 _				185	- 4				190			
123																	
124	TCA	GTG	GCA	GCG	AAA	TCA	GGA	GGC	TGC	TTC	CCT	GGC	TCA	GCC	ACA	GTG	624
125	Ser	Val	Ala	Ala	Lys	Ser	Gly	Gly	Cys	Phe	Pro	Gly	Ser	Ala	Thr	Val	
126			195		-		-	200	-			-	205				
127																	
128	CAC	CTG	GAG	CAT	GGA	GGC	ACC	AAG	CTG	GTG	AAG	GAC	CTG	AGC	CCT	GGG	672
129	His	Leu	Glu	His	Gly	Gly	Thr	Lys	Leu	Val	Lys	Asp	Leu	Ser	Pro	Gly	
130		210					215					220					
131																	
132	GAC	CGC	GTG	CTG	GCT	GCT	GAC	GCG	GAC	GGC	CGG	CTG	CTC	TAC	AGT	GAC	720
133	Asp	Arg	Val	Leu	Ala	Ala	Asp	Ala	Asp	Gly	Arg	Leu	Leu	Tyr	Ser	Asp	
134	225					230					235					240	
135																	
136						GAC											768
137	Phe	Leu	Thr	Phe	Leu	Asp	Arg	Met	Asp		Ser	Arg	Lys	Leu		Tyr	
138					245					250					255		
139																	
140						CAG											816
141	Val	Ile	Glu		Arg	Gln	Pro	Arg		Arg	Leu	Leu	Leu		Ala	Ala	
142				260					265					270			
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164 165 166 167						GAG Glu											1104
168 169 170 171						GGG Gly											1152
172 173 174 175						ACC Thr 390											1200
176 177 178 179						GGC Gly											1248
180 181 182 183						GCA Ala	-			TG							1277
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222 223 224 225					AAG Lys			_		_	_		288
226 227 228 229					AAA Lys	_		_			_	_	336
230 231 232 233					GGA Gly 120				_		_	_	384
234 235 236 237					GCA Ala						_	_	432
238 239 240 241 242	 			 _	TCT Ser								480
243 244 245 246					GAA Glu								528
247 248 249 250 25					GTA Val							CTG Leu	576

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